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In The Supreme Court of the United States

KSR INTERNATIONAL CO.,

Petitioner,

v.

TELEFLEX, INC. AND TECHNOLOGY HOLDING CO.,

Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF FOR *AMICUS CURIAE* COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION IN SUPPORT OF PETITIONER

BRIAN KAHIN
MATTHEW SCHRUERS
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION
666 Eleventh Street, NW
Washington, DC 20001
(202) 783-0070

JONATHAN BAND
Counsel of Record
JONATHAN BAND PLLC
21 Dupont Circle, NW
8th Floor
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com

Counsel for Amicus Curiae

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TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES	iii
INTEREST OF *AMICUS*	1
SUMMARY OF ARGUMENT	2
ARGUMENT	2
I. The Federal Circuit's Suggestion Test Defies Precedent And Statute	2
A. The Federal Circuit's decision should be reversed because it contravenes Supreme Court precedent	3
B. The suggestion test lowers the standard of patentability, defying this Court's conclusion in *Graham*	4
C. The suggestion test shifts the burden of establishing nonobviousness away from the applicant, thus inappropriately reading nonexistent language into Section 103	6
D. The suggestion test fails to reflect reality, particularly in fields where tacit knowledge predominates	8
II. The Federal Circuit's Decision Threatens Innovation By Magnifying And Reinforcing Other Problems In The Patent System	10
A. A diminished nonobviousness standard has created a torrent of low-quality patents	11
B. A diminished nonobviousness standard lowers the value of patents and leads to strategic portfolio racing	15

TABLE OF CONTENTS – Continued

Page

C. A diminished nonobviousness standard drives proliferation, clutter, and uncertainty, all of which increase costs 17

D. A diminished nonobviousness standard promotes opportunistic behavior 18

CONCLUSION 22

TABLE OF AUTHORITIES

Page

CASES

American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350 (Fed. Cir.), *cert. denied*, 469 U.S. 821 (1984) 8, 20

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TABLE OF AUTHORITIES – Continued

Page

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TABLE OF AUTHORITIES – Continued

Page

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TABLE OF AUTHORITIES – Continued

Page

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TABLE OF AUTHORITIES – Continued

Page

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BRIEF *AMICUS CURIAE* OF COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION IN SUPPORT OF PETITIONER

The Computer & Communications Industry Association (CCIA) submits this brief as *amicus curiae* in support of Petitioner KSR International, Inc., and respectfully requests that the Federal Circuit be reversed. Petitioner and Respondents have consented to the filing of this brief by submitting letters of blanket consent to the Clerk of the Court.

INTEREST OF *AMICUS*

The Computer & Communications Industry Association is a non-profit trade association dedicated to open markets, open systems, and open networks. CCIA members participate in many sectors of the computer, information technology, and telecommunications industries and range in size from small entrepreneurial firms to the largest in the industry.[1] CCIA members use the patent system regularly, and depend upon it to fulfill its constitutional purpose of promoting innovation. CCIA is increasingly concerned that the patent system has expanded without adequate accountability and oversight.

[1] Counsel for a party did not author this brief in whole or in part. No person or entity other than CCIA, its members, or its counsel made a monetary contribution to the preparation or submission of this brief.

SUMMARY OF ARGUMENT

The Federal Circuit's opinion below defies numerous precedents of this Court, inappropriately reads non-existent language into Section 103, and produces a perverse regime under which the more commonplace and obvious the combination, the easier it may be to patent. This test threatens innovation by magnifying systemic problems in the patent system that are especially detrimental to the information and communications technology industries. Lower standards devalue patents and increases overall transaction costs. The eviscerated nonobviousness standard has produced a torrent of low-value patents, a widespread perception of declining patent quality, and a rise in strategic behavior. The result is uncertainty, high costs, and a landscape cluttered with vast numbers of questionable and trivial patents, which ultimately defeat the public disclosure function of the patent system.

ARGUMENT

I. The Federal Circuit's Suggestion Test Defies Precedent And Statute.

A study of the law on combination patents reveals a tale of two divergent standards. This Court's standard, last articulated in *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273 (1976), tells us that new combinations of old elements are obvious unless they produce a new or different result. This standard coheres with the Court's prior decisions, the language of the Patent Act, and practices in the real world. The other standard is the Federal Circuit's suggestion test. The suggestion test tells us that new combinations of old elements are not obvious unless there is made a specific showing of motivation, suggestion, or teaching to make the

combination. *See Teleflex, Inc. v. KSR Int'l Co.*, 119 Fed. App. 282, 285 (Fed. Cir. 2005). As discussed below, this standard conflicts with this Court's prior decisions and does not comport with the language of the Patent Act or efficient patent administration.

A. The Federal Circuit's decision should be reversed because it contravenes Supreme Court precedent.

This Court's most recent ruling on combination patents states unambiguously that a "patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men." *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 281 (1976) (quoting *Great Atl. & Pac. Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 152 (1950)). *Sakraida* affirms Supreme Court precedent that new combinations of old elements are obvious unless they produce a new or different result. *Id.* at 282.

In stark contrast to this Court's precedents, the Federal Circuit has formulated its own test for *combinations* of known art. Instead of holding combinations to a high standard, it presumes that they are patentable. There must be an explicit showing of motivation, suggestion, or teaching to make the combination in order show obviousness – commonly known as the "suggestion test."[2]

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[2] *In re Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002) (rejecting "common knowledge and common sense" in favor of requiring evidence in the prior art). *See generally* Federal Trade Comm'n, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, ch. 4, at 8-15 (2003) (highlighting infirmities of suggestion test) *available at* http://www.ftc.gov/os/2003/10/innovationrpt.pdf (hereinafter "FTC Report").

While purporting to reduce subjectivity and hindsight, the requirement of such a showing effectively minimizes the role of the hypothetical "person having ordinary skill in the art," or "PHOSITA," *see* 35 U.S.C. § 103(a), especially in sectors where prior art is weakly documented and unorganized. *See infra* Part I.D. This activist rule transforms the requirement of nonobviousness into a mere elaboration of the novelty requirement. It has no support in Section 103 or any case law other than that of the Federal Circuit and its predecessor.

B. The suggestion test lowers the standard of patentability, defying this Court's conclusion in *Graham*.

In *Graham v. John Deere Co.*, 383 U.S. 1 (1966), this Court concluded that the 1952 Patent Act did not alter the preexisting standard of patentability. Most inventions are combinations of known elements, *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998), and *Graham*'s affirmation of the historical standard holds true for these inventions as well. By contrast, the Federal Circuit's suggestion test aggressively lowers the standard when known elements are combined.

In *Graham*, the respondent patent owner and five *amicus* briefs from the patent bar argued that Congress had quietly lowered the standard of patentability in enacting the 1952 Patent Act, implicitly overruling Supreme Court precedent. *See Graham v. John Deere Co.*, 383 U.S. 1, 16 (1966).[3] This Court rejected that contention,

[3] Prior to the 1952 Patent Act, the patent bar had been concerned that too much emphasis was placed on the concept of "invention" and that too few patents were upheld. *See* Giles S. Rich, *Congressional*

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dismissing the idea that Section 103 "was intended to sweep away judicial precedents and to lower the level of patentability." *Id.* The Court refused to "find in 103 a relaxed standard, supposedly a congressional reaction to the 'increased standard' applied by this Court in its decisions over the last 20 or 30 years," by concluding that "we find no change in the general strictness with which the overall test is to be applied." *Id.*

Graham thus left untouched the established standard for combinations. This standard was subsequently reaffirmed in *Anderson's-Black Rock v. Pavement Co.*, 396 U.S. 57, 61 (1969) (citing *Lincoln Co. v. Stewart-Warner Corp.*, 303 U.S. 545, 549 (1938)), and again in *Sakraida*, which admonished lower courts to "scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements. . . ." 425 U.S. at 281 (quoting *Great Atl. & Pac. Tea Co., supra*).

Furthermore, *Graham* anchored the standard of patentability to the Constitution. The Court held that

> Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose. Nor may it enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby. . . . And it is in this light that patent validity 'requires reference to a standard written into the Constitution.'

Intent – Or, Who Wrote the Patent Act of 1952 in *Patent Procurement and Exploitation* 63-64, 70 (BNA 1963).

Graham, 383 U.S. at 5-6 (quoting *Great Atl. & Pac. Tea Co. v. Supermarket Corp.*, 340 U.S. at 154 (concurring opinion)); *see also Anderson's-Black Rock*, *supra*. The suggestion test detaches this standard from its constitutional moorings by enlarging the statutory monopoly solely as precaution against hindsight, and without regard to its impact on innovation. *See In re Rouffet*, 149 F.3d at 1357-58.

Not only is the Federal Circuit's suggestion test inconsistent with the constitutional roots of the standard of patentability, as discussed below, this aggressively lowered standard is also incompatible with the statute and unrealistic in practice.

C. The suggestion test shifts the burden of establishing nonobviousness away from the applicant, thus inappropriately reading non-existent language into Section 103.

The suggestion test manifests the Federal Circuit's view that a patent applicant has no responsibility to show nonobviousness. Rather, the Federal Circuit's view is that the U.S. Patent and Trademark Office (USPTO) must prove that the claimed invention is obvious. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). The suggestion test thus places the burden of proof under Section 103 on the patent examiner.

While the phrase 'a person shall be entitled to a patent unless' in Section 102 indicates that the Section 102 burden may be appropriately placed on the agency, Section 103 lacks this language. The Federal Circuit conveniently overlooks the conspicuous absence of this phrase from Section 103, and instead imports it from

Section 102. *See In re Warner*, 379 F.2d 1011, 1016 (C.C.P.A. 1967) ("We think the precise language of 35 U.S.C. § 102 that 'a person shall be entitled to a patent unless,' concerning novelty *and unobviousness*, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 *and 103*") (emphases supplied)). Thus, the Federal Circuit bootstraps the section 102 language into Section 103: "*Graham* is interpreted as continuing to place the 'burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 *and 103*.'" *In re Piasecki*, 745 F.2d at 1472 (quoting *In re Warner*, *supra*) (emphasis supplied). This construction finds no support in *Graham*, however.

Moreover, the Federal Circuit's application of Section 102's language to Section 103 contravenes the canon of statutory construction that "where Congress includes particular language in one section of a statute but omits it in another . . . it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." *Keene Corp. v. United States*, 508 U.S. 200, 208 (1993). In *Keene*, the Court declined to import a phrase from one section into another from which that phrase was absent, citing the Court's "duty to refrain from reading a phrase into the statute when Congress has left it out." *Id.* Unlike Section 102, the Section 103 text contains no implication that the burden of proof falls on the examiner. *Graham* makes it clear that "inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability." 383 U.S. at 17. The Federal Circuit's suggestion test, by contrast, assigns a heavy evidentiary burden to the examiner to combine specific

teachings, suggestions, or motivations that the applicant is not even obliged to report. The Federal Circuit then grants the issued patent an enhanced presumption of validity that requires challengers to provide clear and convincing evidence that the patent is invalid, *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1368 (Fed. Cir.), *cert. denied*, 469 U.S. 821 (1984) – an especially daunting prospect for amorphous concepts such as "motivation." For this reason, the Federal Circuit's test should be brought into line with this Court's jurisprudence.

D. The suggestion test fails to reflect reality, particularly in fields where tacit knowledge predominates.

Not only does the Federal Circuit's suggestion test find no support in statute or precedent, but it also fails to reflect practices and expertise in the real world.

The suggestion test requires "actual evidence" supporting a "clear and particular" showing to establish nonobviousness. Generally, however, sources of prior art are unlikely to document the motivation for obvious combinations. "[I]f it is obvious to those of skill in the art to combine references, it is unlikely that they will publish such information." Stephen A. Merrill *et al.*, National Research Council, *A Patent System for the 21st Century* 90 (2004) *available at* http://www.nap.edu/html/patentsystem/0309089107.pdf ("NRC Report"); *see also* FTC Report, *supra* note 2, ch. 4, at 11 (recounting obvious yet undocumented developments related to the notorious Selden patent on the automobile). This is especially problematic for fields such as software and business methods where

the prior art is implemented without public documentation. NRC Report, *supra*, at 88.

Thus, under the suggestion test, even the most banal combination could survive Section 103, merely because there is little opportunity and little motivation to record the many possible trivial combinations. *Id.* at 89. The perverse result is that the more commonplace and obvious the combination, the *easier* it may be to patent.

The suggestion test also marginalizes the "person having ordinary skill in the art" in contravention of *Graham* and Section 103. The Federal Circuit has belittled the hypothetical PHOSITA as a mere journeyman, "one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights, it makes no difference which." *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985). The suggestion test goes further, implying that people having ordinary skill in information technology industries, for example, do not have the insight or skill to combine two references unless specifically instructed to do so. In today's intensely competitive economy, this makes no sense. The operating level of competition and innovation is defined not by mediocrity as the Federal Circuit assumes but by the talents of hundreds of thousands of creative engineers worldwide. *See* FTC Report, ch. 4 n.70. This is especially true for information technology, where convergence and integration are taken for granted.[4] The Federal Trade Commission (FTC) accordingly

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[4] *See* Martin Goetz, *Patents: Where's the Invention?* Computerworld, Mar. 6, 2006, *available at* http://www.computerworld.com/governmenttopics/government/policy/story/0,10801,109169,00.html. ("As more and more

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recommends that the suggestion test be modified to reflect the "creativity and problem-solving skills that in fact are characteristic of those having ordinary skill in the art." FTC Report, Exec. Summ. at 11-12 (Recommendation 3b).

II. The Federal Circuit's Decision Threatens Innovation By Magnifying And Reinforcing Other Problems In The Patent System.

The standard of nonobviousness has long been recognized as the linchpin of patent policy. It determines the ease with which patents can be secured, the overall volume of patenting, and the degree to which competitors, vendors, and users of the technology will be subject to the patents of others. It determines the overall costs associated with applying for, maintaining, asserting, identifying, evaluating, avoiding, and negotiating patents. With lower standards, the overall transaction costs of the patent system will rise, while the average value of each patent will fall.

Abuses associated with low-quality patents are not new. Justice Bradley recognized the heart of the problem in *Atlantic Works v. Brady*, 107 U.S. 192 (1882):

> [A]n indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the

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business methods are computerized, it is clear to many of us in the computer field that there are no inventions involved.")

> industry of the country, without contributing anything to the real advancement of the arts.

Id. at 200.

What has changed since Justice Bradley's day are the extremes in incentive, leverage, and opportunism that arise in the extraordinarily complex and heterogeneous environment of digital information technology. Yet Justice Bradley's insights on opportunism, failure of the disclosure principle, and costs of uncertainty foreshadowed the thickets, minefields, and ambush we speak of today: "It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits . . . " *Id.*

A. A diminished nonobviousness standard has created a torrent of low-quality patents.

By requiring examiners to document explicitly the teaching, suggestion, or motivation to combine known elements, the suggestion test eviscerates the standard of patentability by eliminating nonobviousness in favor of a rewritten novelty standard. This has necessarily induced a flood of applications for low-quality patents.

From a conventional perspective, these individual low-quality patents appear inconsequential because they lack market power. According to Judge Giles S. Rich, who as a committee staffer drafted Section 103:

> Patents are not Nobel or Pulitzer prizes! They are not for exceptional inventors but for average inventors and should not be made hard to get. . . . Why must an invention be a commercially hot number to be patentable? If it is a total dud, how is the public injured by a patent on it?

> A monopoly on something nobody wants is pretty much of a nullity. That is one of the beauties of the patent system. The reward is measured automatically by the popularity of the contribution.

Giles S. Rich, *The Principles of Patentability*, 28 Geo. Wash. L. Rev. 393 (1960), *reprinted in* John Witherspoon, ed., *Non-Obviousness: The Ultimate Condition of Patentability*, at 2:8 (BNA 1980).

Inherent in this view of trivial patents is the assumption that the inherent value of patents is, like real property, a right to exploit. But the patent right is a right to exclude others. *eBay, Inc. v. MercExchange LLC*, 126 S. Ct. 1837, 1840 (2006) (citing 35 U.S.C. § 261). One of the dangers of a trivial patent is that it is easily overlooked, especially in the midst of tens of thousands of other trivial patents. However, a trivial patent inadvertently infringed by a valuable product may be worth a king's ransom, especially once the product is on the market and incorporated in the business activities of thousands, or millions, of users. *See, e.g.*, Ian Austen, "Court Ruling in BlackBerry Case Puts Service to U.S. Users at Risk," N.Y. Times, Oct. 8, 2005, at C3. The lure of ransom is so great that "[a]n industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees." *eBay, Inc. v. MercExchange LLC*, 126 S. Ct. at 1842 (Kennedy, J., concurring). In these industries the patent is not practiced, but instead "employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent." *Id.*

A trivial mousetrap may be inconsequential, but thousands of trivial patents embedded in today's highly

complex, widely deployed, interdependent information systems represent a threat not only to the processes of innovation but to the fabric of business and commerce that is now so dependent on the use of information technology.

The USPTO has followed the Federal Circuit's lax standard in its own practice, leading to a widespread perception of declining patent quality. Growing concerns about declining quality and other systemic problems recently prompted studies by both the Federal Trade Commission and the National Research Council. *See* FTC Report, *supra* note 2; NRC Report, *supra*. The application of the threshold standard of patentability is not the only factor in determining patent quality and numbers, but the natural consequence of a lower standard is more patents. Comparison between the USPTO and the European Patent Office (EPO) for patents applied for and granted in both jurisdictions shows USPTO grant rates increasing from 20 percent higher to 40 percent higher from 1982 to 1994. OECD, *Patents and Innovation: Trends and Policy Challenges* 18-19 (2004) *available at* www.oecd.org/dataoecd/48/12/24508541.pdf. In contrast with official statistics, USPTO grant rates over 1981-2005 are as high as 95% when continuation applications are taken into account, Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and the U.S. Patent and Trademark Office – Updated*, 15 Fed. Cir. B.J. 635, 661 (2006). Of a population of 70,000 applications granted by the USPTO and also applied for in the EPO and Japanese Patent Office (JPO), only 37.7% were granted by both the EPO and JPO. *See* Paul H. Jensen *et al.*, *Disharmony in International Patent Office Decisions*, 15 Fed. Cir. B.J. 679, 692 (2006). A 2005 survey of corporate members of the Intellectual Property Owners Association found that over

half thought the "quality" of issued patents was poor or less than satisfactory. Intellectual Property Owners Association, *IPO Survey: Corporate Patent Quality Perceptions in the U.S.*, Sept. 20, 2005, *available at* http://www.ipo.org/PatentQualityReport/.

It is conceivable that this phenomenon is not a result of the USPTO following the Federal Circuit, and the high grant rate is instead attributable entirely to mistakes and misplaced incentives at the USPTO – an agency whose self-described mission was, until recently, "to help customers get patents." U.S. Patent & Trademark Office, *Corporate Plan 2001*, at 23, *available at* http://www.uspto.gov/web/offices/com/corpplan/pt04.pdf. But if that were the only reason, we would expect to see high judicial findings of invalidity. Yet appellate findings of patent invalidity are less frequent since the inauguration of the Federal Circuit, thus suggesting that the Federal Circuit approves of the USPTO's high grant rate, consistent with its liberalized standard of nonobviousness. *See* William M. Landes & Richard A. Posner, *The Economic Structure of Intellectual Property Law*, at 338 (2003) (citing rise in upholding of validity from 35% pre-Federal Circuit to 67% in first ten years of Federal Circuit).

Consistent with the conclusion that the USPTO follows the Federal Circuit's lax standards, participants in joint hearings conducted by the FTC and the Department of Justice in 2002 generally perceived a reduction in the rigor of the nonobviousness standard since the advent of the Federal Circuit; they also saw the application of the "suggestion test" as a core issue in assessing nonobviousness and a focal point of current debate. FTC Report, ch. 4, at 8, 11. The FTC concluded that modification of the

suggestion test is needed. *Id.* ch. 4, at 11; Exec. Summ. at 11-12.

B. A diminished nonobviousness standard lowers the value of patents and leads to strategic portfolio racing.

Unfortunately, patent policy has been held hostage by the politics of cheap, easy-to-get patents, as represented by the "help customers get patents" mission of the USPTO. Certainly, more patents are a boon to patent professionals and to a fee-funded patent agency.[5] While it may first appear that making patents easier to get also benefits patent owners, a lax standard allows competitors to acquire more patents as well. This can work to the detriment of patents on important inventions by reducing the zone of obviousness around them and instead encouraging patents on minor variations. Initial inventors will then be required to share revenues with the improvers. FTC Report, ch. 4, at 4-5. In the long run, this raises the danger that investment will shift from creative investments that need patent protection to less socially valuable innovation where patents are not needed. *See* Glynn S. Lunney, Jr., *E-Obviousness*, 7 Mich. Telecom. & Tech. L. Rev. 363, 412 (2001).

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[5] The USPTO benefits substantially from renewal fees since under the present revenue structure, renewals generate virtually no administrative burden but entail substantial fees. *See* 37 C.F.R. §§ 1.20(e)-(f) (2006) (approximately $6,000 over life of a single patent). This provides an incentive to grant rather than to deny patents in the expectation of future revenue from maintenance fees.

Conversely, by patenting very aggressively and securing minor variations on the initial patent, a well-resourced firm can construct a proprietary patent thicket around an invention or a set of technologies. This may not wholly preclude rivals or opportunists from filing blocking patents, but it can extend the initial patent beyond its original scope and term. This ability to extend the patent limits the practice of "designing around" and inhibits rival entry into product markets. FTC Report, ch. 4, at 5-6.

For both strategic perspectives there is a simple answer: Get more patents. From a policy perspective, this is problematic because the patent "portfolio" rather than the individual patent becomes the fundamental unit – and the implications for competition and innovation are different at the portfolio level. *See generally* R. Polk Wagner & Gideon Parchomovsky, *Patent Portfolios*, 154 U. Pa. L. Rev. 1, 52-66 (2005). "Strategic patenting" is driven by the potential value of large portfolios in defending against external patent attacks. Bronwyn H. Hall & Rosemarie H. Ziedonis, *The Patent Paradox Revisited: An Empirical Study of Patenting in the US Semiconductor Industry, 1979-95*, 32 Rand J. of Econ. 101, 107 (2001). In the IT sector, where functional complexity and sequential innovation create demand for interoperability and freedom of operation, portfolios facilitate non-exclusive cross-licensing, in effect undoing the principle of exclusivity on which conventional patent strategy and policy is premised.

Thus, weaker nonobviousness requirements are a double-edged sword that can lead to greater patenting by rivals, reduced patent value, and high transaction costs. This can mean *less* R&D activity, especially in industries that are predisposed to innovate rapidly. Robert M. Hunt, *Nonobviousness and the Incentive to Innovate: An Economic*

Analysis of Intellectual Property Reform 36-39 (Mar. 1999) (Fed. Reserve Bank of Phila. Working Paper 99-3). In the case of software, empirical research indicates that patents actually substitute for (rather than complement) investment in R&D, a result that occurs primarily in industries known for strategic patenting. James E. Bessen & Robert M. Hunt, *An Empirical Look at Software Patents* 38-40 (Mar. 2004) (Fed. Reserve Bank of Phila. Working Paper No. 03-17).

C. A diminished nonobviousness standard drives proliferation, clutter, and uncertainty, all of which increase costs.

Patent proliferation as a consequence of a permissive standard leads not only inflation but clutter – a patent landscape characterized by "thickets, minefields, royalty stacking, anti-commons, and flooding problems." FTC Report, ch. 4, at 5. These problems are exacerbated by the fact that patents are poorly defined rights. Patents are delineated by claims, but these are words and phrases with multiple definitions, especially in more abstract subject matter. There is no equivalent to the fences, fixed markers, and precision instruments of the physical world.

In the physical world, it is impossible to trespass on thousands of separately owned parcels of land at once, and property boundaries are fundamentally *bilateral* affairs addressed by hiring surveyors rather than lawyers. Intellectual property boundaries, on the other hand, are necessarily *multilateral* affairs in which one must first determine how many patents a particular product may infringe. There may be thousands of virtual boundaries to be located and evaluated. The cost depends on the number of functions or components to be cleared and the number

of relevant patents found and evaluated. Producers face an average of $13,182 for each validity/invalidity opinion (including evaluating obviousness) and $11,670 per infringement/non-infringement opinion. AIPLA, *Report of the Economic Survey* at I-101 (2005). For a product with thousands of functions in an environment where patents are easy to get, full clearance searches quickly become impractical.[6]

The Federal Circuit's suggestion test compounds the problem. When all combinations of known elements are presumed patentable, as the suggestion test requires, permutations of functions and components must be cleared as well – in theory if not in practice. Even simple combinations of the two known elements, such as conducting reverse auctions on the Internet, must be presumed patentable absent a showing of teaching, suggestion, or motivation to combine.

D. A diminished nonobviousness standard promotes opportunistic behavior.

A landscape cluttered with vast numbers of questionable and low-quality patents inevitably leads to too much

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[6] The figures above do not include the costs of searching for relevant patents in the first instance, and they must be multiplied when multiple relevant patents are found for a given function or component. *See Competition, Economic, and Business Perspectives on Substantive Patent Law Issues: Non-Obviousness and Other Patentability Criteria: Hearing Before the Federal Trade Commission* 81 (Oct. 30, 2002) ("[T]here are too many patents to be able to even locate which ones are problematic. I used to say only IBM does clearance . . . but IBM tells me even they don't do clearance searches anymore.") (statement of Robert Barr, Worldwide Patent Counsel, Cisco Systems) *available at* http://www.ftc.gov/opp/intellect/021030trans.pdf.

information and therefore failure of the disclosure function at the aggregate level.[7] *See generally* Note, *The Disclosure Function of the Patent System (or Lack Thereof)*, 118 Harv. L. Rev. 2007 (2005). This failure at an aggregate level creates a fertile breeding ground for those who can take advantage of opacity and uncertainty. In an environment characterized by defensive portfolio building and cross-licensing among major producers, the big winners are not the producers, who are in effect using defensive portfolios and cross-licensing to contractually avoid the exclusivity of patents. The big winners are patent holders who are not engaged in production, distribution, and use of the technology, and therefore have no vulnerability to patents of others. These non-producing entities are free to ambush companies that have made large investments in developing and marketing products that inadvertently infringe on unforeseen patents. *See* FTC Report, ch. 2, at 31.

The recently popularized term "troll," is often used to describe non-producing companies or individuals that assert questionable patents against producers. *Id.* n. 220. The term "troll" is convenient shorthand for arbitrageurs that benefit from low standards and large numbers of

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[7] *Business Perspectives on Patents – Software and the Internet: Hearing Before the Federal Trade Commission* 411-12 (Feb. 27, 2002) ("In the software industry . . . the number of overbroad patent claims allowed by the USPTO, the uncertainty in the current patent process going through, and particularly the uncertainty in the judicial process post-grant, all combine to increase the difficulties and inaccuracies of the endeavor of trying to use that information in a competitive manner, because there's too much information and it is no longer meaningful in the same way as it might be in other industries, which might seem irrational.") (statement of Bradford L. Friedman, Director of Intellectual Property, Cadence Design Systems, Inc.) *available at* http://www.ftc.gov/opp/intellect/020227trans.pdf.

patents, uncertainty in patent scope and validity, and the ease of asserting questionable patents because of the high presumption of patent validity accorded by the Federal Circuit. *See American Hoist & Derrick Co.*, 725 F.2d at 1368 (establishing standard of validity). Trolls thrive on a business model of "being infringed." *See* Markus G. Reitzig et al., *On Sharks, Trolls, and Other Patent Animals – 'Being Infringed' as a Normatively Induced Innovation Exploitation Strategy*, Feb. 2006 (working paper) *available online at* http://ssrn.com/abstract=885914.

These arbitrageurs benefit from their ability to inflict disproportionate harm on producers who have inadvertently incorporated patented functions into complex mass-marketed products. If such an entity can trip up the industry standards that are so critical in information technology, they can levy a tax on an entire industry. Thus, Justice Bradley's admonition 125 years ago in *Atlantic Works, supra*, describes equally well today the extremes in opportunity, incentive, and leverage that arise for "speculative schemers" in digital information technology. Nowhere is this more apparent than in the field of software where the creation of patentable functionality is open to millions of innovative individuals worldwide and where billions of users worldwide depend on the same industry standards to communicate and to share information and knowledge.

Under the Federal Circuit's jurisprudence, the millions of functions performed by computers for any conceivable purpose – personal, commercial, manufacturing, governmental, or otherwise – are potentially patentable. Under the Federal Circuit's suggestion test, every combination, every permutation of these functions, novel or not, is presumptively nonobvious. This encourages not only

excessive patenting but excessive claiming within patents as applicants weave a web that is too complex for examiners to research.[8] It creates a patent landscape too dense to navigate deliberately, putting at risk all but the most unadventurous and timid innovators.

CONCLUSION

For the foregoing reasons, CCIA respectfully urges this Court to reverse the Federal Circuit's holding and conform the Federal Circuit's jurisprudence on non-obviousness to the prior rulings of this Court.

Respectfully submitted,

BRIAN KAHIN
MATTHEW SCHRUERS
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION
666 Eleventh Street, NW
Washington, DC 20001
(202) 783-0070

JONATHAN BAND
Counsel of Record
JONATHAN BAND PLLC
21 Dupont Circle, NW
8th Floor
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com

Counsel for Amicus Curiae

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[8] The average number of claims per patents in a representative sample increased 50% from 9.94 in 1976-78 to 14.87 in 1996-98. John R. Allison & Mark A. Lemley, *The Growing Complexity of the United States Patent System*, 82 B.U.L. Rev. 77, 103 (2002). Continued expansion of claims has prompted a USPTO proposal to limit initial examination of claims in a patent application to no more than claims deemed as "representative" by the applicant. *Changes to Practice for the Examination of Claims in Patent Applications*, 71 Fed. Reg. 61, 62 (Jan. 3, 2006).